

REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to the Advisory Action mailed on December 27, 2005 and the Final Office Action mailed September 27, 2005. In this Amendment, claims 15-23, 27, and 29-31 are rejected. Claims 15, 16, 18, 19, 20, 21, 22, 27, and 29 have been amended. No new matter is added by this Amendment. This Amendment does not introduce new subject matter that requires new search. The Amendment places the claims toward allowable condition.

Rejections under 35 U.S.C. § 103(a)

The Examiner has rejected claims 15-21, 23, 27, and 29-31 under 35 U.S.C. §103(a) as being unpatentable over Duthaler, et al. (U.S. Patent No. 6,312,304, hereinafter “Duthaler”). In view of Falls, et al. (WO. Patent No. 97/05556, herein after “Falls”) as previously applied and further in view of Smith. (U.S. Patent No. 5,545,291, hereinafter “Smith” associated by application in their specification).

Applicant respectfully submits that **Duthaler in combination with Falls and Smith** did not describe, teach, suggest, or even motivate claims 15-21, 23, 27, and 29-31. Claim 15 recites a method of manufacturing a flexible display comprising: (with emphasis)

depositing a plurality of shaped blocks, each having an active circuitry for a display driver, onto a flexible web substrate, said flexible web substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein, at least one of each of said shaped blocks comprising an active circuit element for driving a picture element; and

coupling a receiver to the plurality of shaped blocks on the flexible web substrate, the receiver transmitting signals to the said shaped blocks to cause the active circuit element of at least one of said shaped blocks to drive the picture element;

wherein at least a portion of said flexible web substrate having said plurality of blocks deposited therein forms a backplane for said flexible display; and

coupling a display panel to said backplane to form said flexible display

As the Examiner stated, Duthaler described a method of manufacturing a display with a plurality of blocks deposited on a flexible substrate. The Examiner stated further that Duthaler did not describe specifically the flexible strip as having flexible substrate having a plurality of recessed region configured to receive the blocks. However, the Examiner stated that Smith taught a substrate with recessed regions to receive blocks. Therefore, the Examiner stated that it would have been obvious to one of ordinary skill in the art at the time of the invention to include Smith's plurality of recessed configured to receive the blocks into Duthaler's method.

Applicant respectfully disagrees. Duthaler does not use the term "block" in his text. The Examiner appears to interpret the use of the term "microcapsules" in Duthaler with the use of the term "blocks" in the present application. The microcapsules in Duthaler are fundamentally different in function than the blocks in the present application. Microcapsules in Duthaler contain the display transducer medium; in other words, the material that modulates light in response to an electrical signal. There are no functional active electronic circuits in these microcapsules. In Applicant's instant application, the functional blocks contain active circuit elements that provide the electrical signals that can be used to control a display transducer medium.

This use of functional blocks with active circuit elements is not described nor anticipated by Duthaler. In Duthaler, the controlling circuit elements are printed onto the substrate that contains the active electronic elements. Functional blocks containing active circuit elements, disposed into a substrate material, are not described nor anticipated.

In the currently amended form, the claims have been amended to point out clearly that each of the shaped blocks comprises an active circuit element for display driver and more specifically for driving a picture element of a display. Further, a web substrate is provided and wherein at least a portion of the flexible web substrate having the plurality of blocks deposited therein forms a backplane for the flexible display. Lastly, a display panel is coupled to the backplane to form the flexible display.

Duthaler in combination with Falls and Smith do not make obvious claims 15-21, 23, 27, and 29-31. Duthaler described making a display with multiple layers laminated together. In more particular, Duthaler disclosed an assembly that has three (3) layers, a modulating layer, a pixel layer, and a circuit layer adhered together to form an electronic display. (Col. 1, lines 55-64). The third substrate appears to serve a function to contain the active circuit elements, with the second substrate simply providing an interconnection means between the display medium and the driving electronics. In this way, the display medium could be kept separated from the driving electronics, which was desirable for the stability of printed electronics.

The modulating layer includes a first substrate and an electro-optical material provided adjacent the first substrate. The modulating layer is capable of changing a visual state upon application of an electric field. (Col. 1, lines 57-60). In particular, the modulating layer includes substrate 12, a common electrode 16, and display media 14 which includes microcapsules 18. (Col. 3, lines 44-64). **The microcapsules 18 are part of the display media 14. The substrate 12 of Duthaler does not include blocks with integrated circuit or active circuitry that drive picture elements as claimed in Applicant's claims 15-21, 23 and 27. The microcapsules 18 are NOT active circuit element.**

Duthaler even taught away from suggesting a block having an integrated circuit or

active circuitry for a display. As can be seen, in Duthaler, the circuit layer includes a third substrate and at least one circuit element. In particular, the circuit layer includes a substrate 41, pixel electrode contacts 42, and pixel circuitry and logic 44. The circuit layer includes electronic that drives the display.

Duthaler also disclosed that the modulating layer comprises a flexible substrate. But Duthaler did not teach that blocks are deposited onto a flexible substrate as the Examiner believed. At col. 2, lines 24-27, Duthaler discussed that the “electro optical material comprises a plurality of capsules, each capsule comprising a bichromal sphere dispersed in a fluid,” and that the “modulating layer comprises a flexible substrate.” This discussion could have not suggested “depositing a plurality of shaped blocks, each having an active circuitry, onto a flexible substrate, said flexible substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein, each of said shaped blocks comprising an active circuit element for driving a picture element” as recited in the claim 15.

Combining Smith and Falls into Duthaler does not derive to Applicant’s claimed invention. Smith taught the method of assembling microstructure into a substrate with recessed regions configured to receive the substrate. And, Falls taught coupling a receiver to an assembly such as a display. But, none of Falls and Smith suggest making a display with blocks that have active circuitry similar to described in Duthaler.

Additionally, even though Smith taught methods of depositing blocks into recessed regions configured to receive the blocks, Smith did not suggest that the blocks should be deposited into a flexible substrate and form an assembly the way Applicant’s invention did as recited in claim 15. Even if Smith taught the method of assembling a microstructure on to a substrate that is compact, low cost, efficient, reliable, and requires little maintenance as the Examiner stated, Smith did not suggest that blocks with driving circuit to be deposited in a

flexible substrate and a receiver coupling to the blocks as recited in Applicant's claimed invention.

With respect to claim 27, Applicant submits further that not only that Duthaler did not teach blocks, each comprising an electronic device for driving a picture element, to be deposited in a web material, Duthaler did not even teach coupling a receiver to the blocks on the web material. Figures 1, 6, 7, etc of Falls did not teach a web process where blocks are deposited to form a flexible display panel. As can be seen, for example, on page 13 of Falls, Figure 1 shows a product information system, Figure 6 shows a block diagram of the circuit of a display module, and Figure 7 shows a sectional view of a module secured to a backplane. In fact, none of the figures, or the associated discussion of Falls taught a web process that forms a flexible display panel as recited in claim 27. A web process may be used in many applications. But there is no suggestion of "a method of manufacturing a flexible display panel depositing a plurality of blocks onto a web material defined by a length 50 times greater than its width, each of said blocks comprises an electronic device for driving a picture element; and coupling a receiver to the plurality of blocks on the web material" as recited in claim 27. Therefore, since there is no suggestion to combine in Duthaler and Falls for the elements of claim 27, it could have not been obvious under Duthaler and Falls.

Therefore combining Duthaler with Smith and Falls could have not made obvious claims 15-21, 12, 27, and 29-31.

The Examiner has also rejected claims 22 under 35 U.S.C. §103(a) as being unpatentable over Duthaler. In view of Falls and Smith and further in view of Bischel, et al. (U.S. Patent No. 5,664,032, herein after "Bischel").

The same discussion above applies here. In addition, similar to Duthaler , Smith, and Falls, Bischel did not suggest "depositing a plurality of shaped blocks, each having an active

circuitry, onto a flexible substrate, said flexible substrate having a plurality of recessed regions configured to receive said plurality of shaped blocks therein, each of said shaped blocks comprising an active circuit element for driving a picture element.” Even if Bischel taught an upconverting phosphor, Bischel, in combination with Duthaler, Smith, and Falls could have not made obvious claim 22 for the same reasons discussed above.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Mimi Dao at (408) 720-8300.

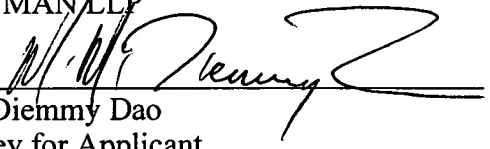
Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR
& ZAFMAN LLP

Dated: December 30, 2005


Mimi Diemmy Dao
Attorney for Applicant
Registration No. 45,628

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300